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Case Report

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# Don't miss it as anxiety, ARDS!

Salih Fettahoğlu[1], Süreyya Tuba Fettahoğlu[1], Tuğçe Türkalp[2], Efe Demir Bala[1], Ramiz Yazıcı[1], Serkan Doğan[1]

[1]*Department of Emergency Medicine, Kanuni Sultan Süleyman Training and Research Hospital, İstanbul, Turkiye*
[2]*Department of Emergency Medicine, Reyhanlı State Hospital, Hatay, Turkiye*

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**Corresponding Author:** Salih Fettahoğlu, salihfettahoglu52@gmail.com

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## ABSTRACT

Acute respiratory distress syndrome (ARDS) is a critical condition which compromises with the respiratory functions. Aim of this study is to present the management of ARDS case in the emergency department. This is a case report of a patient who was admitted to an emergency department. We did not apply any statistical methods. A 41-year-old female patient with no medical history was admitted to the emergency department as an outpatient with complaints of shortness of breath and palpitations. After a physical examination, it was first though that the patient was simply experiencing an anxiety episode. However, oxygen saturation was measured as 35 % and further investigation of the patient revealed ARDS as the cause of these symptoms. Patient was admitted to the ICU unit. Even though anxiety can be common, it can be dangerous to dismiss other clinical and potentially lethal pathologies when searching for the cause of respiratory distress. Physical examination and vital signs should be evaluated together to reach a potential diagnosis.

**Keywords:** Acute respiratory distress syndrome, anxiety, saturation

## INTRODUCTION

Acute respiratory distress syndrome (ARDS) is a potentially critical condition which is characterized by non-cardiogenic diffuse bilateral infiltration. ARDS is often caused by a trigger event which can include, sepsis, trauma, drug toxicities and smoke inhalations. Clinically, tachypnea, dyspnea and cyanosis are present, and ventilation/perfusion imbalance has been shown to be an integral part of the pathophysiology of ARDS. ARDS mortality remains quite high, usually above 50%. This high mortality rate is primarily due to complications of multiple organ failures caused by both the trigger events and the ARDS itself.[1,2]

Here, we presented a patient who was admitted to our emergency department with symptoms of respiratory distress, tachypnea and tachycardia, and was diagnosed with ARDS as a result of ongoing examination findings and tests, which at first glance was thought to be a panic attack-anxiety disorder, along with literature information.

## CASE

A 41-year-old female patient with no medical history was admitted to the emergency department as an outpatient with complaints of shortness of breath and palpitations. Consciousness was evaluated as clear, oriented-cooperative, GCS: 15. Upon further investigation and anamnesis, it was understood that respiratory distress started suddenly and woke her up from sleep. The patient communicated easily and as a result of this fact it was first thought that the patient was having a panic attack-anxiety disorder. This notion was supported by the fact that the patient did not have any previous medical history and was not an active or former smoker. However, following the measurement of her vitals, the saturation value was detected 30-35% by pulse oximetry. Upon this revelation, she was quickly taken to the resuscitation area. After a careful physical examination, it was detected that the patient had bilateral rales and the dyspnea became apparent with the intercostal muscles joining in to support the respiratory effort. With these findings and extremely low oxygen saturation detected by pulse oximetry alongside a progressing cyanosis with no response to initial oxygen therapy, the decision was made to intubate the patient in order to prevent a pending respiratory arrest. With these processes being completed, what at first glance looked like an panic attack-anxiety disorder, became a potentially life threatening condition. At this point, clinicians had a few diffential diagnosis at hand, which included pneumonia, pulmonary emboli and ARDS. In order to narrow down the list of potential diagnosis, bloodwork and imaging studies were initiated after the patient was intubated and stabilized. ECG was evaluated as Normal Sinus Rhythm. In bloodwork, pH was 7.35 mmHg (normal range 7.35mmHg -7.45 mmHg)

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and a $pCO_2$(partial pressure of carbon dioxide) of 35 mmHg (normal range 22 mmHg-29 mmHg) was detected alongside a $PaO_2$ (Partial arterial pressure of oxygen) of 23 mmHg. Leukocyte count of 18 $10^3$/µl (normal range 3.8 $10^3$/µl -10 $10^3$/µl was found in the blood results. Further tests showed CRP (C-Reactive Protein) as 6 mg/L (<5 mg/L), D-dimer as 2.2 mg/L (<0.5 mg/L) and troponin T as 7.43 ng/L (<14 ng/L). There was bilateral infiltration and a ground glass appearance in the lungs on thorax computed tomography (CT) (Figure 1,2). With D-dimer being detected above the normal threshold a pulmonary artery CT angiogram was performed in order to exclude the possibility of a pulmonary emboli, which came back negative. Further bloodwork was conducted in order to eliminate the possibility of a cardiogenic edema, and with Pro-BNP being detected <125 pg/ml, we excluded the possibility of a left ventricular dysfunction. Finally with other possibilities being excluded, we proceeded to evaluate the patient for ARDS. With the abrupt onset within hours, a CT scan which reveals bilateral ground glass opacities alongside a low Pro-BNP and a $PaO_2$ to $FiO_2$ ratio of 92, which, according to the Berlin Criteria for ARDS, corresponds to a severe ARDS. After the diagnostic processes and the initial treatments were completed, the patient was transferred to the ICU with the preliminary diagnosis of severe ARDS.

## DISCUSSION

ARDS should be suspected in patients with symptoms of progressive dyspnea, increased oxygen requirements, and alveolar infiltrates on chest imaging within 6 to 72 hours of a precipitating event. When severe, acute confusion, respiratory distress, cyanosis, and sweating may be evident. Cough, chest pain, wheezing, hemoptysis and fever are inconsistent and mostly depend on the underlying etiology.[3] Clinical findings related to the underlying etiology may also be present at the time of admission, but no certain etiology was found in our case, however with the elevated lymphocyte count a viral infection could be a potential trigger event. Clinical diagnosis of ARDS is made by Berlin criteria.[3,4] Our case also meets most of the Berlin criteria, with respiratory distress starting within hours, bilateral widespread opacity on lung imaging, young age, and lack of any cardiac history based on clinical history and a low $PaO_2$ to $FiO_2$ ratio . Because the international consensus definition of ARDS does not specify any criteria for underlying etiology, some uncertainty remains about which conditions should or should not be included in the ARDS diagnostic umbrella. These include disorders that are generally known to cause widespread alveolar damage and have the potential to resolve over time.[5] ARDS mortality remains very high, usually above 50%. This high mortality rate develops due to the complications of multisystem organ failure caused by the pathologies that primarily cause ARDS, rather than ARDS itself. Thanks to modern ventilation protocols, only about 15% of cases with ARDS result in mortality due to the inability of the lungs to oxygenate the blood.[6,7]

## CONCLUSION

ARDS is a syndrome with a high mortality rate that is diagnosed with high awareness and requires various clinical findings along with laboratory tests and imaging. Our case report aims to help evaluate ARDS in the Emergency Department and to draw attention to the importance of evaluating patients' general condition, physical examination, laboratory tests, imaging and vitals as a whole for emergency physicians. This case report is presented in order to ensure that panic attack-anxiety disorders should be considered after organic pathologies are excluded, and that such patients are not overlooked in the busy emergency department.

## ETHICAL DECLARATIONS

### Informed Consent

The patients signed the free and informed consent form.

### Referee Evaluation Process

Externally peer-reviewed.

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

### Financial Disclosure

The authors declared that this study has received no financial support.

### Author Contributions

All of the authors declared that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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